

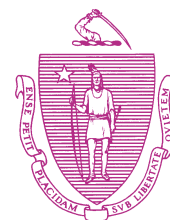
MASSACHUSETTS
Transportation Facts

2001

MASSACHUSETTS
TRANSPORTATION FACTS
2001

Jane M. Swift
Governor

Kevin J. Sullivan
Secretary
*Massachusetts Executive Office of Transportation
and Construction*





Jane M. Swift
Governor

State Transportation Agencies

Executive Office of Transportation and Construction

Kevin J. Sullivan, *Secretary*

Massachusetts Highway Department

Matthew J. Amorello, *Commissioner*

Massachusetts Turnpike Authority

J. Richard Capka, *CEO*

Massachusetts Port Authority

Mark E. Robinson, *Chairman*

Virginia Buckingham, *Executive Director and CEO*

Massachusetts Bay Transportation Authority

Kevin J. Sullivan, *Chairman*

Robert H. Prince, Jr., *General Manager*

Massachusetts Aeronautics Commission

Sherman W. Saltmarsh, Jr., *Chairman*

Robert J. Mallard, *Executive Director*

TABLE OF CONTENTS

LETTER FROM THE SECRETARY	4
---------------------------------	---

INTRODUCTION	5
--------------------	---

SYSTEM INFRASTRUCTURE AND PASSENGER MOVEMENT

POPULATION AND JOURNEY-TO-WORK STATISTICS	6
---	---

HIGHWAY TRANSPORTATION	7
------------------------------	---

PUBLIC TRANSPORTATION	15
-----------------------------	----

INTERCITY RAIL AND BUS PASSENGER SERVICES	20
---	----

MASSACHUSETTS INTERMODAL TRANSPORTATION NETWORK ...	22
---	----

AIR TRANSPORTATION	25
--------------------------	----

BICYCLE AND PEDESTRIAN TRAVEL	27
-------------------------------------	----

WATER TRANSPORTATION SERVICES	28
-------------------------------------	----

FREIGHT MOVEMENT

AIR FREIGHT	31
-------------------	----

RAIL FREIGHT	32
--------------------	----

WATERBORNE FREIGHT	34
--------------------------	----

MOTOR FREIGHT	35
---------------------	----

TRANSPORTATION INITIATIVES AND MAJOR PROJECTS

TRANSPORTATION INITIATIVES	36
----------------------------------	----

PLANNING PROCESS AND PUBLIC INVOLVEMENT	38
---	----

MAJOR PROJECTS PROPOSED OR UNDERWAY	39
---	----

LETTER FROM THE SECRETARY

Thank you for your interest in the Commonwealth of Massachusetts' multimodal transportation system. This booklet will provide you with an overview of each of the components of the transportation network and a variety of information on how the system is used. Modes discussed include highway, transit, rail, air, bicycle, pedestrian, and water. Both the passenger and freight aspects of transportation are presented.



For over 350 years the Commonwealth has been at the forefront of transportation innovation. Massachusetts established North America's first water ferry service in the 17th century, the nation's first postal route (U.S. Route 1) in the 18th century, and the first subway system in the Western Hemisphere in the 19th century. New engineering marvels are being accomplished as the Central Artery project nears completion.

Governor Swift and I believe that maintaining and reinvesting in the transportation infrastructure of Massachusetts is vital to meeting the challenges faced by the citizens of the Commonwealth. As we enter the 21st century, it is important to recognize and respond to the increasing globalization of the economy. To that end, we are dedicating resources to the Commonwealth's roads and bridges, ports and airports, rails and trails. By investing in transportation today, we make possible the economic growth and prosperity of tomorrow.

I hope you find Massachusetts Transportation Facts 2001 useful. If you require additional information, please refer to the telephone numbers or Web sites provided inside.

Sincerely,

A handwritten signature in dark ink, appearing to read "Kevin J. Sullivan".

Kevin J. Sullivan
Secretary and MBTA Chairman

INTRODUCTION

MASSACHUSETTS TRANSPORTATION FACTS 2001 gives an overview of the extensive multimodal transportation network in the Commonwealth and its use. It contains relevant statistics on existing conditions and use and includes a series of maps showing the major components of the system within a New England context.

This booklet has three sections. The first, *System Infrastructure and Passenger Movement*, presents information on the physical characteristics of the transportation system and on its use by passengers. The second section, *Freight Movement*, provides statistics on the various modes of freight transportation. The third section, *Transportation Initiatives and Major Projects*, highlights the Massachusetts Executive Office of Transportation and Construction's efforts to implement a broad range of transportation system improvements throughout the Commonwealth.

Phone Numbers, Web Sites, and TTY Information

Key phone numbers and Web sites are provided in this booklet so that the reader may easily obtain further information about various transportation services. A TTY (telecommunications device for the deaf) number is listed where available. If a TTY number is not listed, communication through the statewide relay operator is available at (800) 439-2370 (TTY).



French King Bridge, Gill

SYSTEM INFRASTRUCTURE AND PASSENGER MOVEMENT

POPULATION AND JOURNEY-TO-WORK STATISTICS

Massachusetts is one of the most urban states in the nation: its 6,349,097 residents (2000 U.S. Census) live on 7,935 square miles of land. The Commonwealth is nearly ten times more densely populated than the nation as a whole, with approximately 800 residents per square mile versus 76 per square mile nationally. Over 87% of Massachusetts residents live within an urbanized area.

The following U.S. Census journey-to-work statistics for 1990 (statistics for 2000 are not yet available) show how Massachusetts residents commute to work compared to the nation as a whole. There were approximately 2.975 million Massachusetts residents employed in 1990. Both in Massachusetts and nationally, over 70% of all workers drive alone to work. In Massachusetts there is a slightly greater reliance on walking and taking public transit to work. Since the 1990 Census was taken, there has been growth in the number of Massachusetts residents working and commuting. This has resulted in some of the travel mode numbers becoming dated. One example is commuter rail ridership, which has increased dramatically since 1990.

Travel Mode to Work	Total Mass. Residents	Massachusetts Percentage	National Percentage
Drive alone	2,150,200	72.2%	73.4%
Carpool (2–5 persons)	311,500	10.5	12.8
Walk	161,800	5.4	3.9
Subway/rapid transit	107,800	3.6	1.5
Bus	103,000	3.5	3.1
Work at home	74,800	2.5	3.0
Commuter rail	28,500	1.0	0.5
Bicycle	11,300	0.4	0.4
Vanpool (6+ persons)	6,500	0.2	0.5
Taxi	6,200	0.2	0.2
Ferry	1,900	0.1	0.0
Other	11,800	0.4	0.7
TOTAL	2,975,300	100.0%	100.0%

For Massachusetts residents' journey to work:

Median travel time by all modes	20.7 minutes
Average auto occupancy	1.14 people per auto

HIGHWAY TRANSPORTATION

Road Vehicles

In 1999 there were an estimated 5,333,000 vehicles registered in Massachusetts, 40% more than a decade previously. Trucks account for 28% of all registered vehicles. The truck segment is mostly composed of privately owned pickups, vans, and utility vehicles.

Auto Usage

Massachusetts residents own more vehicles per person than the national average, but drive those vehicles less. The average number of miles driven by each driver per year is 17% lower than the national average, and the average amount of gasoline consumed per vehicle per year is 22% lower.

Vehicle Statistics (1998)

	Massachusetts Average	National Average
Vehicles per person	0.86 vehicles	0.76 vehicles
Gallons of fuel per vehicle per year	581 gallons	747 gallons
Licensed drivers per vehicle	0.86 drivers	0.89 drivers
Vehicle miles per driver per year	11,795 miles	14,192 miles

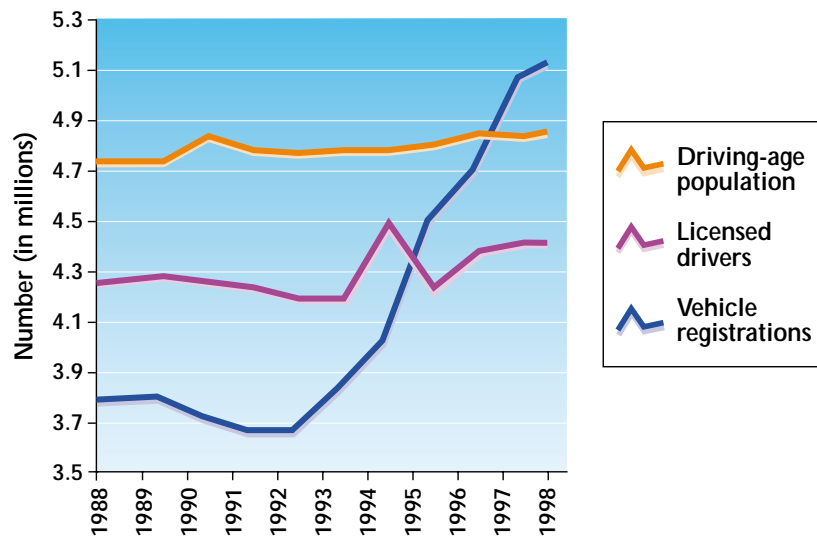


Monsignor O'Brien Highway, Cambridge

Licensed Drivers

There were 4.39 million licensed drivers in Massachusetts in 1998. During the decade from 1988 to 1998, the driving-age population increased slightly to approximately 4.84 million people, while the number of licensed drivers in the state increased by 3.4%. The chart below shows the driving-age population, the number of those holding driver's licenses, and the number of vehicles registered in the state, for that period. The percentage of the driving-age population who had a license grew from 84% in 1988 to 91% in 1998.

LICENSED DRIVERS, DRIVING-AGE POPULATION,
AND VEHICLE REGISTRATIONS



Vehicle Miles Traveled and Fuel Consumption

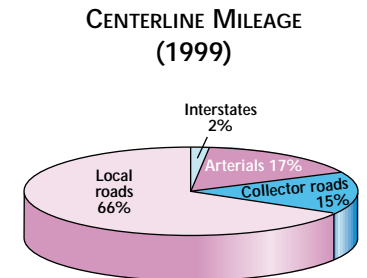
The total number of miles traveled each day in Massachusetts by all forms of motorized vehicles is over 141 million (1999 average). The estimated total for the entire year of 1999 was 51.83 billion vehicle miles traveled. This is 11% higher than the 46.68 billion vehicle miles traveled in 1993.

The total motor fuel consumption in 1998 in Massachusetts was 3.0 billion gallons, an average of 581 gallons of fuel per vehicle registered in the state.

Centerline Road Mileage

In 1999 there were a total of 35,268 "centerline" miles of roads in the Commonwealth. As the table below shows, the majority of these are local roads, which are owned and maintained by cities and towns. The pie chart shows the percentage of centerline mileage by type of roadway.

Roadway Type	Centerline Miles	Percent of Total
Interstates	569	1.6%
Arterials	5,846	16.6
Collector roads	5,485	15.5
Local roads	23,368	66.3
TOTAL	35,268	100.0%

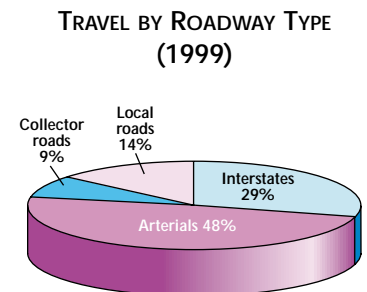


*Centerline miles represent simple "road map distance." Number of lanes is disregarded. Only one direction of the road is counted for mileage, including on divided roadways.

Travel by Roadway Type

In 1999, though interstate highways made up only 1.6% of the total centerline mileage in Massachusetts, they carried 29.3% of daily vehicle miles traveled. Local and collector roads, in contrast, made up 81.8% of centerline mileage but carried only 22.5% of daily vehicle miles traveled.

Roadway Type	Vehicle Miles Traveled *	Percent of Total
Interstates	41.452	29.3%
Arterials	68.188	48.2
Collector roads	12.273	8.7
Local roads	19.432	13.8
TOTAL	141.345	100.0%



*Millions of miles per day.

Bridge Conditions

There are just under 5,000 bridges in Massachusetts monitored by the Massachusetts Highway Department's bridge management system. The table below shows the number that were under the control of each agency and the percentage that were to standard, functionally obsolete, or structurally deficient as of April 2000.

A functionally obsolete bridge is one that does not meet all of the current traffic and/or highway design standards. Evaluation criteria include bridge width, traffic volumes, and the condition of approach roadways.

Functional obsolescence is not necessarily caused by a deficiency in the bridge itself, nor is it an immediate safety concern.

A structurally deficient bridge is one that has experienced deterioration significant enough to potentially reduce its load-carrying capacity. This does not directly correlate to a posted bridge or unsafe structure.

Massachusetts ranks below the national average in the number of structurally deficient bridges.

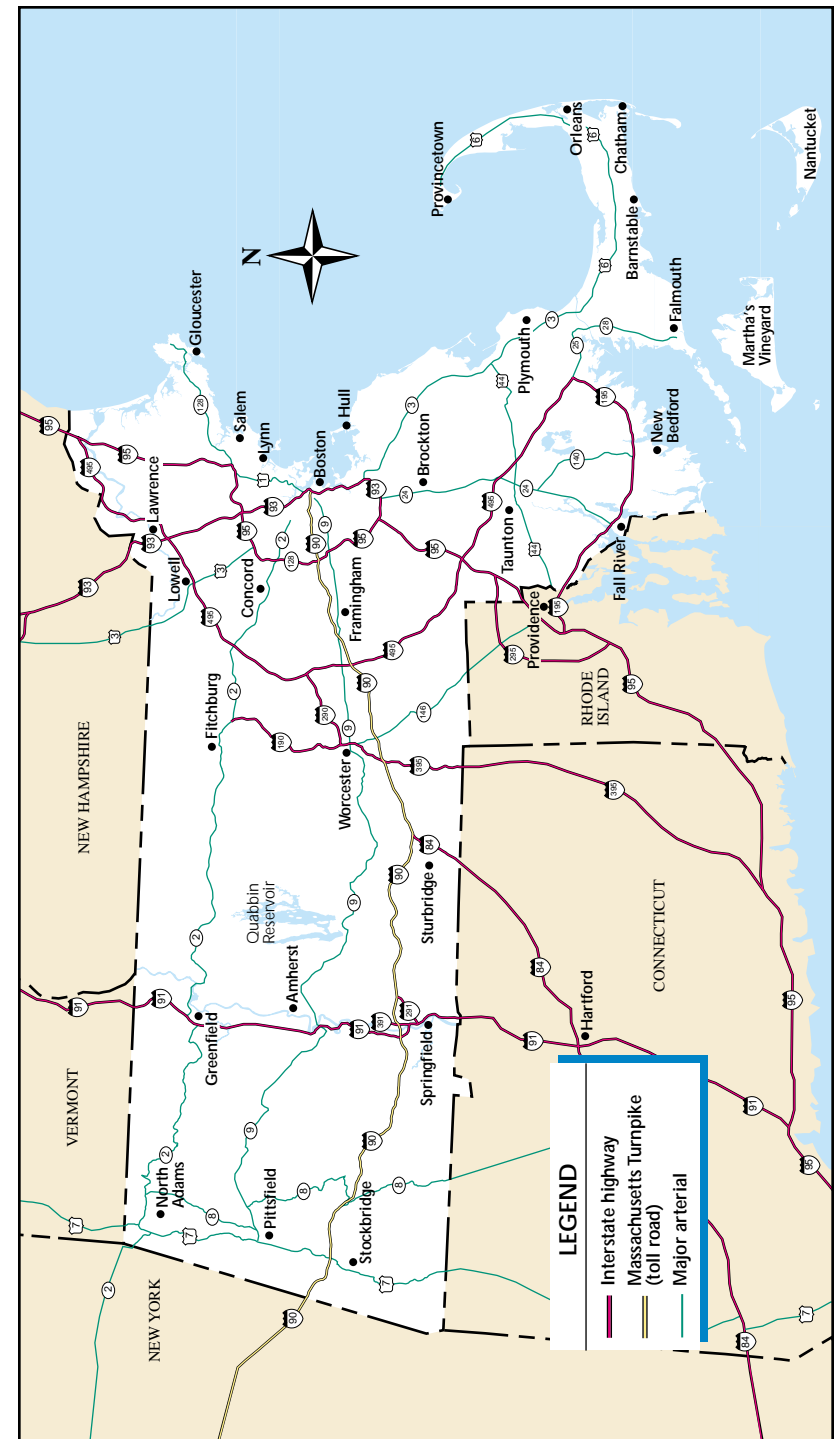
Responsibility*	(Percentage of Bridges)			
	Total Bridges	Meeting Standards	Functionally Obsolete	Structurally Deficient
MassHighway	2,888	63%	25 %	12%
Cities and towns	1,546	61	21	18
MassPike	348	77	20	3
MDC	116	44	39	17
MBTA	75	33	43	24
Other	21	14	62	24
STATEWIDE TOTAL	4,994	63%	24%	13%

*Full names of agencies are listed on pages 13 and 16.



Beverly-Salem Bridge

MAJOR HIGHWAYS



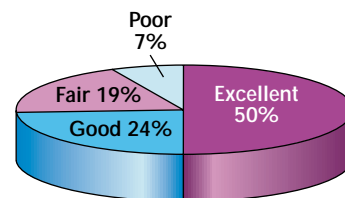


Roadway reconstruction

Pavement Condition

MassHighway's pavement management program collects data on the condition of the state-maintained highway system for the purpose of establishing the priorities of rehabilitation projects. The accompanying chart shows the status of the system's roadways for 1999.

PAVEMENT CONDITION OF THE STATE-MAINTAINED HIGHWAY SYSTEM (1999)



Traffic Safety

The Commonwealth has one of the lowest traffic fatality rates among the states, based on number of either licensed drivers or registered vehicles. The fatality rate in 1998 for Massachusetts was less than half the national rate.

Traffic Fatalities per Licensed Driver and Vehicle, 1998

	Massachusetts	Nationwide
Per 1,000 licensed drivers	0.09	0.22
Per 1,000 registered vehicles	0.08	0.20

For more information on the state roadway network, contact:

Massachusetts Highway Department (MassHighway)

10 Park Plaza, Suite 3510
 Boston, Massachusetts 02116
 (617) 973-7800 TTY (617) 973-7306
www.state.ma.us/mhd

Other state agencies and authorities with oversight of roadways and bridges in the Commonwealth are:

For the Massachusetts Turnpike and the Metropolitan Highway System, including the Sumner, Callahan, and Ted Williams tunnels:

Massachusetts Turnpike Authority (MassPike)

10 Park Plaza, Suite 4160
 Boston, Massachusetts 02116
 (617) 248-2800
www.massturnpike.com

For the Tobin Memorial Bridge and Logan Airport access roads:

Massachusetts Port Authority (Massport)

1 Harborside Drive, Suite 200S
 East Boston, Massachusetts 02128
 (617) 428-2800
www.massport.com

For the parkways within the Boston metropolitan area:

Metropolitan District Commission (MDC)

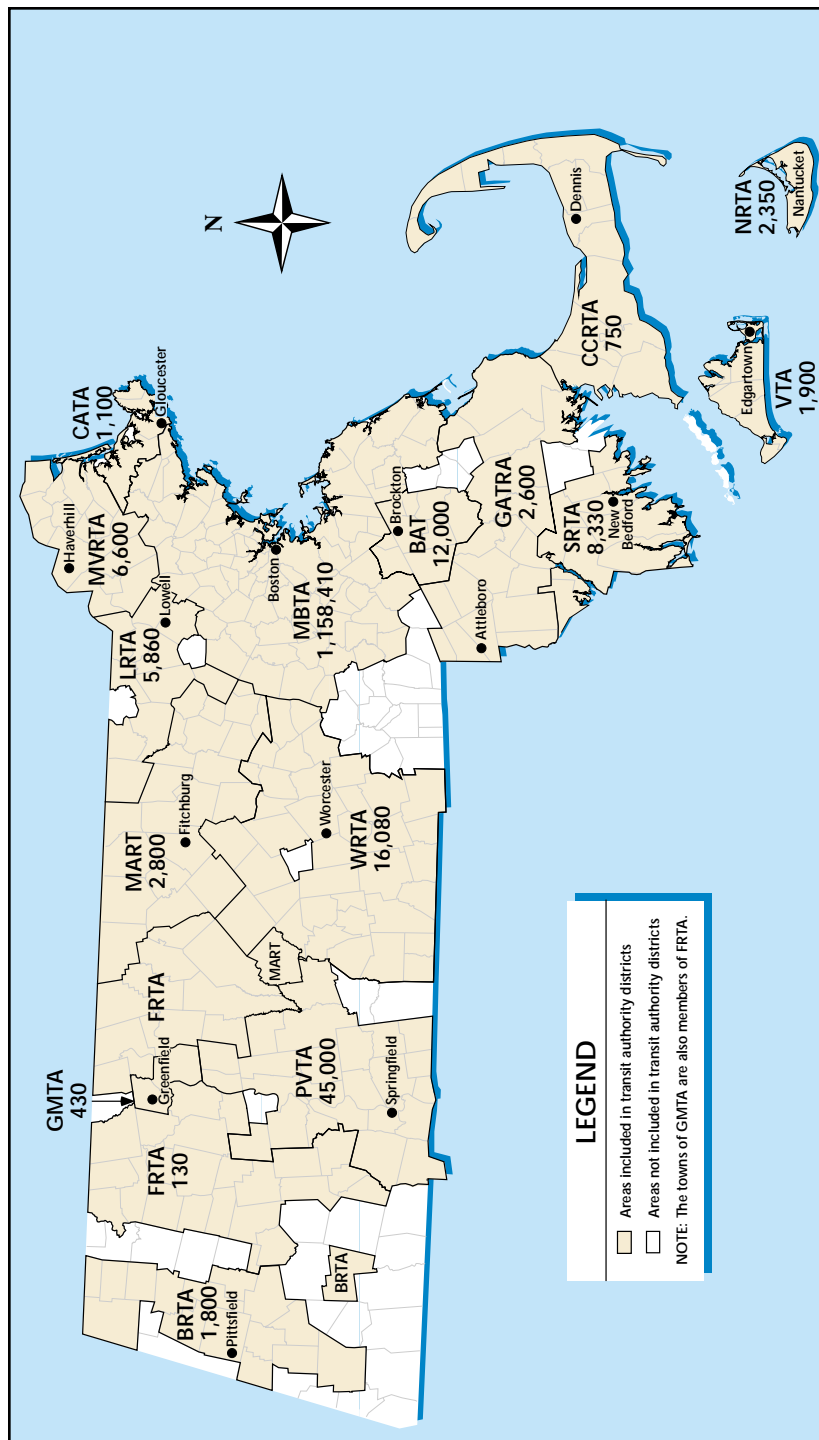
20 Somerset Street
 Boston, Massachusetts 02108
 (617) 727-5250
www.state.ma.us/mdc

For the roadways within the state park system:

Department of Environmental Management (DEM)

100 Cambridge Street
 Boston, Massachusetts 02202
 (617) 727-3180 TTY (413) 545-5353
www.state.ma.us/dem

For local roadways, contact the appropriate city or town.



PUBLIC TRANSPORTATION

Public transportation service for the Commonwealth is provided by the Massachusetts Bay Transportation Authority (MBTA) and 15 regional transit authorities (RTAs). These agencies operate both fixed-route and paratransit services.

Paratransit service generally consists of lift-equipped vans which provide door-to-door transportation for people with disabilities who cannot travel on conventional buses or trains. The RIDE, the MBTA's paratransit service, is offered in 62 cities and towns in the MBTA's service district. Each of the 15 RTAs provides some form of paratransit service.

Regional Transit Authorities (RTAs)

The 15 regional transit authorities serve 205 cities and towns throughout Massachusetts. The RTAs range in size from the Nantucket Regional Transit Authority, serving one town, to the sprawling Franklin Regional Transit Authority, serving 35 towns in Franklin, Hampden, and Hampshire counties. Average weekday ridership on the fixed routes of the RTAs totalled 108,000 riders in 1999. The map opposite shows the districts of the MBTA and the RTAs and the number of daily fixed-route riders in each in 1999.

For transit schedules or route information, call:

BRTA - Berkshire Regional Transit Authority

Pittsfield (413) 499-2782 TTY (413) 448-2108

BAT - Brockton Area Transit Authority

Brockton (508) 588-2240 TTY (508) 586-0009

CATA - Cape Ann Transportation Authority

Gloucester (978) 283-7916 TTY (508) 281-4894

CCRTA - Cape Cod Regional Transit Authority

Dennis (508) 385-8311 TTY (800) 385-7511

FRTA - Franklin Regional Transit Authority

Greenfield (413) 774-2262 (V/TTY)

GATRA - Greater Attleboro-Taunton Regional Transit Authority

Attleboro (508) 226-1102 TTY (508) 824-7439

GMTA - Greenfield-Montague Transportation Area

Greenfield (413) 774-5195 TTY (413) 774-2262

LRTA - Lowell Regional Transit Authority

Lowell (978) 459-0164 TTY (800) 439-2370

MART - Montachusett Regional Transit Authority

Fitchburg (978) 345-7711 TTY (800) 789-0577

MBTA - Massachusetts Bay Transportation Authority

Boston (617) 222-3200 TTY (617) 222-5146

www.mbta.com

MVRTA - Merrimack Valley Regional Transit Authority

Haverhill (978) 469-1254 (V/TTY)

NRTA - Nantucket Regional Transit Authority

Nantucket (508) 228-7025

PVTA - Pioneer Valley Transit Authority

Springfield (413) 732-6248 TTY (800) 922-0178

SRTA - Southeastern Regional Transit Authority

New Bedford (508) 997-6767 TTY (508) 999-5810

VTA - Martha's Vineyard Transit Authority

Edgartown (508) 627-9663 V/TTY (508) 693-4633

WRTA - Worcester Regional Transit Authority

Worcester (508) 791-2389 TTY (508) 791-6401



*CATA bus,
Gloucester*

The MBTA System

The MBTA district is made up of 175 communities in eastern Massachusetts. In addition to serving those cities and towns, the MBTA provides commuter rail and bus service to 64 communities outside the district. For travel information, call (617) 222-3200 (TTY [617] 222-5146) or visit www.mbta.com.

Approximately 695,000 one-way passenger trips per day are taken on the subway, bus, and commuter rail systems of the MBTA. The modes of service run by the MBTA are bus, paratransit, rapid transit, light rail, commuter rail, and water ferry. The MBTA network has a total of 186 routes and 256 stations (not including bus stops). The routes and stations are distributed by mode as follows:

Mode	Routes	Stations/Stops
Rapid transit	3	53
Green Line and Mattapan Trolley	5	78
Commuter rail	12	119
Bus and trackless trolley	162	9,000
Water ferry	4	6

The MBTA maintains park-and-ride lots at many commuter rail and rapid transit stations. At present there are over 48,000 parking spaces in the system.

The number of daily boardings on each of the modes and individual rail lines is given on pages 18 and 19. The sum of boardings is greater than the 695,000 passengers-per-day figure mentioned above because many people transfer between modes, bus routes, or rail lines to make a complete trip.

The MBTA is expanding transit service from South Station to the South Boston Piers area and planning the Silver Line, which will link downtown Boston with Dudley Square in Roxbury. Commuter rail projects under construction or planned include the addition of intermediate stations on the Worcester Line, the restoration of the Greenbush branch of the Old Colony Line, and the extension of commuter rail service to Fall River and New Bedford. The reinstitution of service along the Middleborough/Lakeville and Plymouth branches of the Old Colony Line was completed in September 1997. Commuter rail service was extended to Newburyport in October 1998.

MBTA Use and Infrastructure (1999)

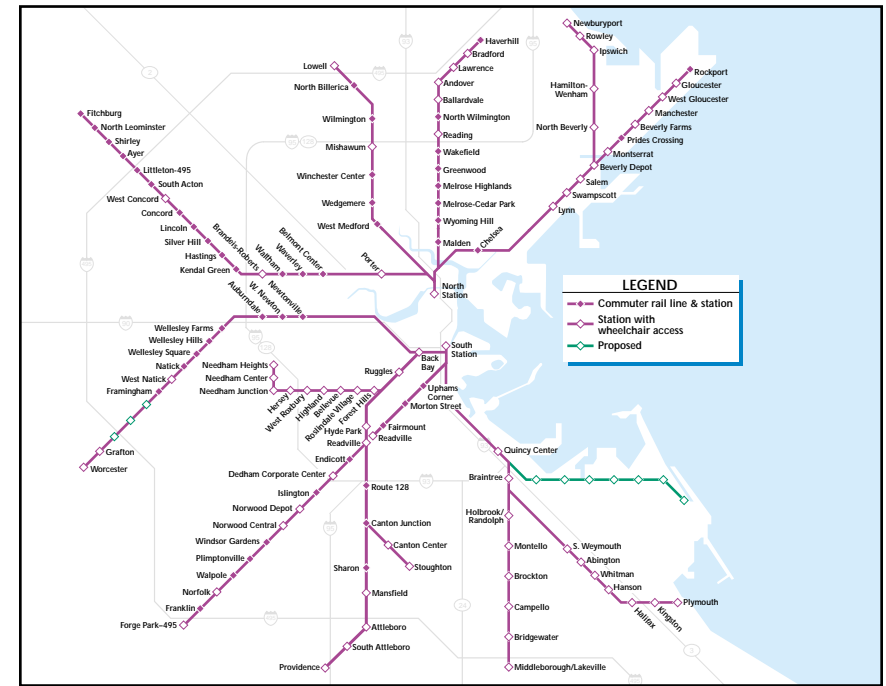
Rapid Transit, Bus, and Ferries

	Daily Boardings	Number of Vehicles	Line Miles
Red Line	218,000	218	20.5
Green Line	202,000	175	25.4
Orange Line	164,000	120	11.1
Blue Line	61,000	70	5.9
Mattapan Trolley	7,000	11	2.6
MBTA bus	375,000	1,030	730.0
The RIDE (paratransit)	4,100	110	
Commuter ferries	5,000		
TOTAL	1,036,100		

MBTA RAPID TRANSIT SYSTEM



MBTA COMMUTER RAIL SYSTEM



Commuter Rail

North Side Lines	Daily Boardings	Line Miles to: North Station
Rockport	8,170	35.3
Newburyport branch	8,820	35.7
Haverhill	9,810	32.9
Lowell	9,420	25.5
Fitchburg	8,700	49.5

South Side Lines	Daily Boardings	Line Miles to: South Station
Framingham/Worcester	15,640	44.3
Needham	8,930	13.7
Franklin	14,380	30.8
Attleboro	22,430	43.4
Stoughton branch*		18.8
Fairmount	2,660	9.1
Middleborough/Lakeville	6,350	35.6
Plymouth	7,000	35.6

TOTAL COMMUTER RAIL 122,310

*Stoughton boardings included in Attleboro total.

INTERCITY RAIL AND BUS PASSENGER SERVICES

Amtrak

Amtrak provides four passenger-rail services in Massachusetts:

Two Northeast Corridor routes to New York City and points south

- Along the Shore Line Route via Providence
- Along the Inland Route via Worcester and Springfield

The Lake Shore Limited (to Chicago)

The Vermonter (to St. Albans, Vermont)

The map on the next page shows the Amtrak routes and station stops within the Commonwealth. In 2000 Amtrak began running its high-speed train, the Acela, on selected Boston–Washington, D.C., trips. To obtain service information: contact Amtrak at (800) 872-7245 ([800] USA-RAIL) or—for TTY users—(800) 523-6590; or visit www.amtrak.com.

In fiscal year 1997, approximately 1.17 million passengers were served from Massachusetts stations. Total annual ridership and the number of daily round-trip trains for Amtrak passenger rail service by station were:

	Annual Ridership	Number of Daily Round-Trip Trains
South Station (Boston)	747,250	11
Back Bay (Boston)	126,100	11
Route 128 Station	140,600	9
Framingham	4,350	2
Worcester	15,670	2
Amherst	8,140	1
Springfield	126,630	6
Pittsfield	4,640	1



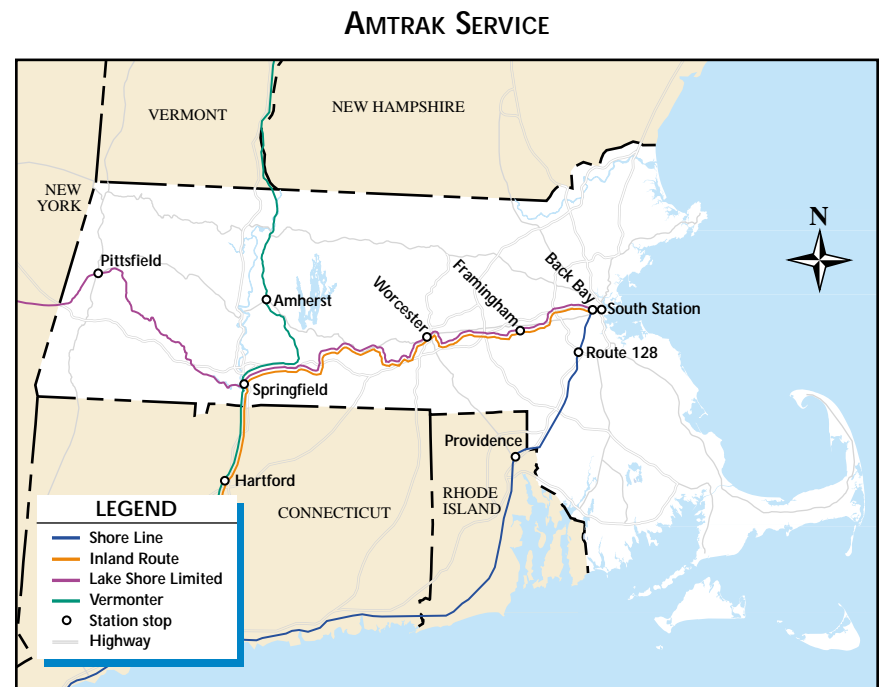
Acela train, Boston

Intercity Bus Passenger Services

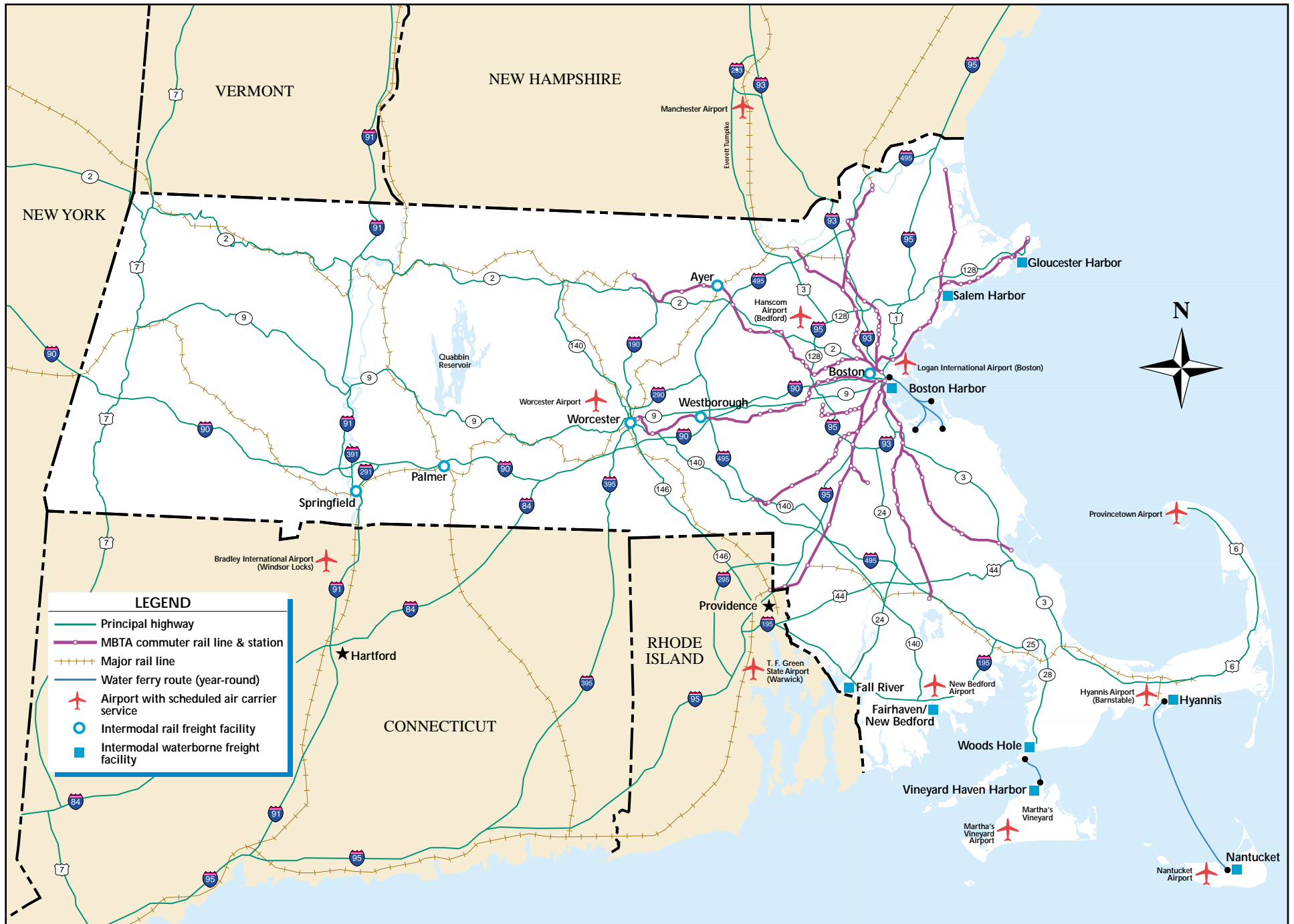
The state is served by numerous private bus carriers providing intrastate and interstate service for commuting and other types of travel. Major carriers such as Peter Pan and Greyhound provide bus connections to the national intercity bus network. Regional carriers, some through contracts with regional transit authorities, provide commuter service between most New England and Massachusetts cities.

The South Station Intermodal Center in downtown Boston houses national bus carriers, major regional bus carriers, and commuter bus operations. It provides connections for bus passengers to the MBTA's Red Line and commuter rail, Amtrak, and taxis. Other intercity bus terminals are located in Springfield and Worcester.

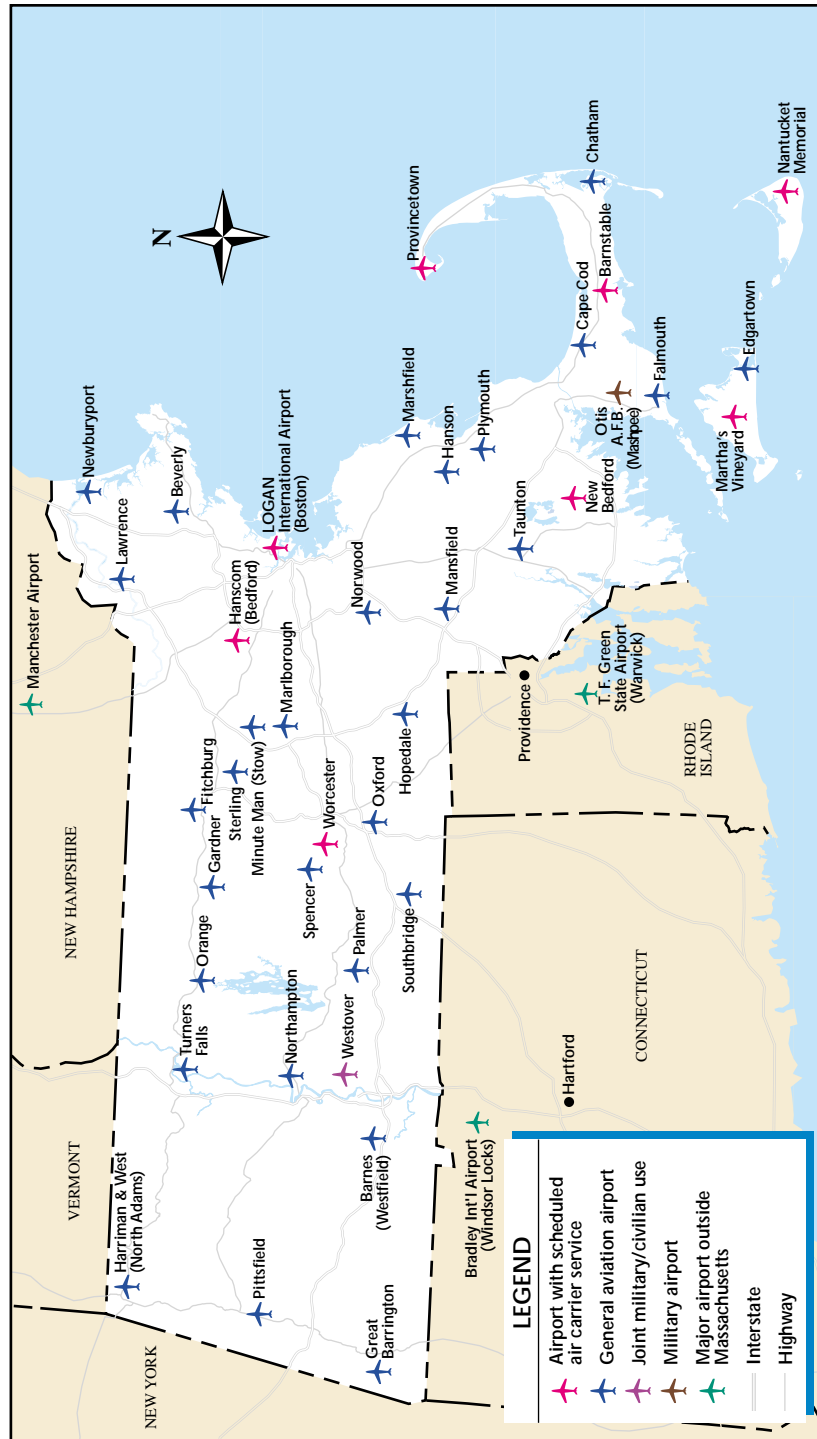
For more information on intercity bus service, call the appropriate private bus carrier. CARAVAN for Commuters, at (888) 4-COMMUTE or www.commute.com, also provides information on intercity bus service.



MASSACHUSETTS INTERMODAL TRANSPORTATION NETWORK



AIRPORTS



AIR TRANSPORTATION

Massachusetts' airports serve a variety of passenger and freight operations. Logan International is the primary gateway for New England, accounting for over 60% of the air passenger boardings in the six-state region. In terms of passenger volume, Logan is the 16th-busiest airport in the U.S., having served over 27 million arriving and departing passengers in 1999.

Logan International Airport Activity, 1999

	Flight Operations	Passenger Totals
Total domestic	412,200	22,636,700
Total international	44,700	4,292,700
General aviation	37,900	122,700
TOTAL	494,800	27,052,100

In addition to Logan, seven other Massachusetts airports are served by commercial air carriers with regularly scheduled flights. The total number of flight operations and of passengers arriving and departing in 1998 at each of these airports that had scheduled service in that year is given in the table below. Scheduled service began at Hanscom Field in September 1999.

Regional Airports with Scheduled Air Carrier Service: 1998 Activity

	Flight Operations	Passenger Totals
Nantucket Memorial	152,670	545,100
Barnstable (Hyannis)	135,200	409,800
Martha's Vineyard	67,620	143,800
Worcester Regional	53,530	76,300
New Bedford Regional	63,430	39,900
Provincetown Municipal	5,600	32,900



Worcester Regional Airport

Selected Bicycle Facilities across the Commonwealth

Facility	Length	Location
Claire Saltonstall Bikeway	135 miles	Signed route from Boston to Cape Cod Canal, Cape Cod Canal to Provincetown and Woods Hole
Martha's Vineyard Bike Paths	22 miles	Various paths on the island along major roadways and through the State Forest
Cape Cod Rail Trail	25 miles	Dennis to Wellfleet
Dr. Paul Dudley White Path	18 miles	Boston, Cambridge, Watertown, Newton; on both sides of the Charles River
Nantucket Island Bike Paths	28 miles	Various paths on the island along major roadways
Minuteman Commuter Bikeway	11 miles	Bedford, Lexington, Arlington, Cambridge
Norwottuck Rail Trail	9 miles	Northampton, Hadley, Amherst, Belchertown

BICYCLE AND PEDESTRIAN TRAVEL

Bicycle Travel

The Commonwealth has a number of facilities, both on- and off-road, serving bicycle travel. The expanding network of bicycle paths serves other users as well, such as walkers. The Commonwealth is also providing on-road improvements for bicycling. A list of major bicycling facilities is presented on the opposite page.

The MBTA and the Nantucket, Cape Cod, and Pioneer Valley regional transit authorities have equipped portions of their bus fleets with front-mounted bicycle racks for use by cyclists. Bicycle lockers and racks have also been installed at transit stations, park-and-ride lots, and other locations to promote bicycle use.

For additional information

For information on MassHighway bicycle and pedestrian programs, call: Bicycle and Pedestrian Coordinator

Bureau of Transportation Planning and Development, MassHighway
(617) 973-7313

Additional information on regional and local bicycle and pedestrian facilities and conditions can be obtained from:

Regional Planning Agencies (RPAs)

Phone numbers are listed on pages 38 and 39.

For more information on the Cape Cod and Norwottuck rail trails, call:
Massachusetts Department of Environmental Management
(617) 727-3160

Pedestrian Travel

Many of the Commonwealth's traditional urban centers are well suited for walking due to their compact development and mix of activities. Boston, "America's Walking City," encourages tourists to see the city along the Freedom Trail, a three-mile walking tour of major historic sites and buildings.

According to the 1990 U.S. census, 5.4% of all Massachusetts workers walk to work. In several Massachusetts towns, including Amherst, Cambridge, and Provincetown, almost 25% of commuters walk to work. In Boston, 48% of all trips made within downtown are walking trips.

WATER TRANSPORTATION SERVICES

As a coastal state, Massachusetts has long depended on its ports for transportation. The network of year-round and seasonal passenger service is shown on the map opposite. Water passenger service can be grouped into four main categories: island ferries, commuter boats, seasonal excursion boats, and cruise ships.

Ferry Service between Cape Cod and the Islands

The Woods Hole, Martha's Vineyard & Nantucket Steamship Authority provides year-round ferry service for both passengers and vehicles between Cape Cod and the islands of Martha's Vineyard and Nantucket. Expanded service between the mainland and the islands is provided by numerous other private boat operators during the summer.

Steamship Authority Traffic between Cape Cod and the Islands, 1999

Passengers	Automobiles	Trucks
2,872,050	493,200	107,500

Commuter Boat Service within Boston Harbor

Commuter boat service within Boston Harbor is provided by a combination of the MBTA and private boat operators. As the inset map on the next page shows, year-round commuter service is provided from Hingham, Hull, and Quincy to Boston's Inner Harbor and Logan Airport. Inner Harbor ferry service connects a series of Inner Harbor docks. These services carry over 5,000 passengers daily.

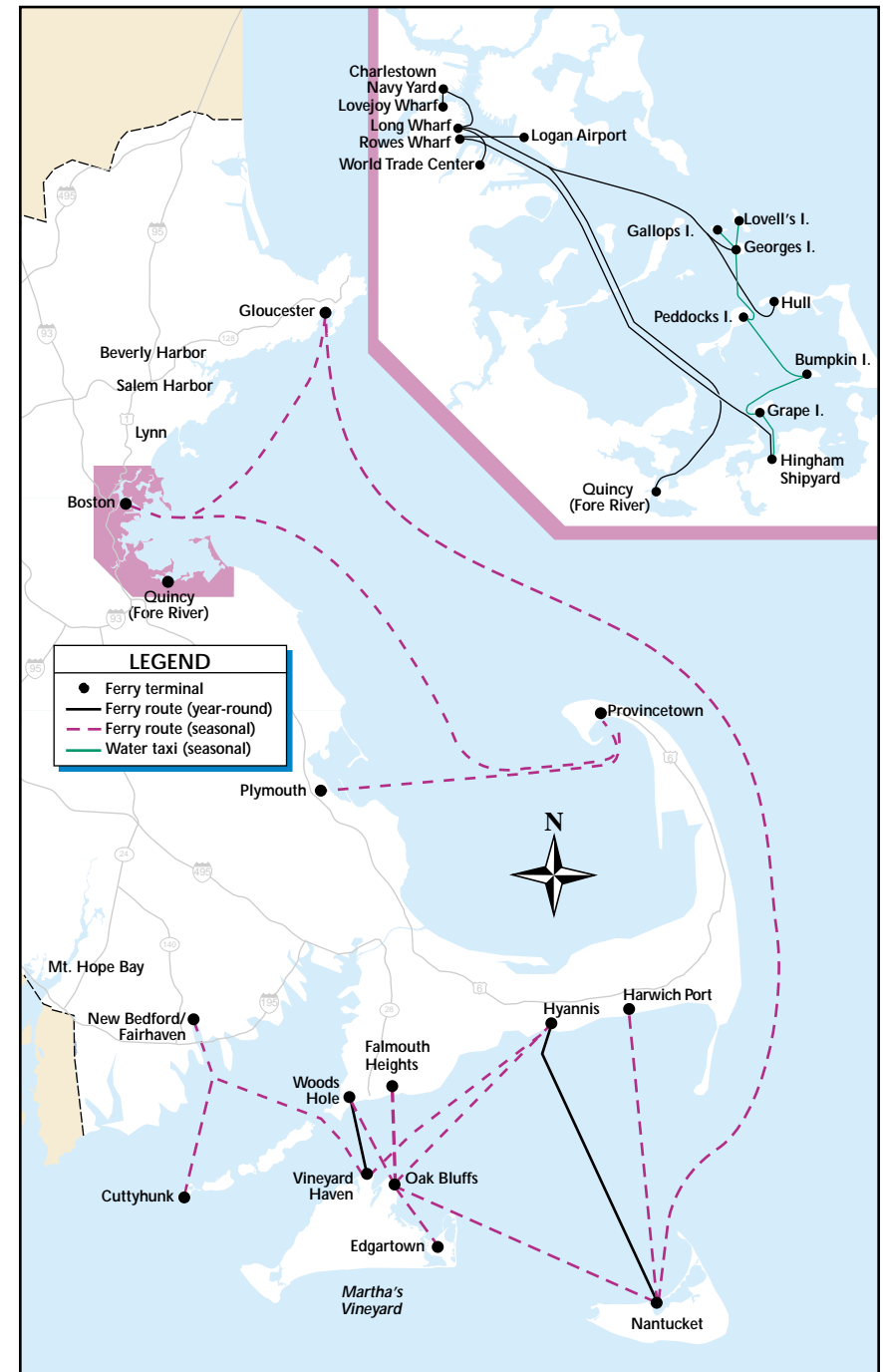
Seasonal Excursion Service

The summer months bring an expansion of water passenger service. There is additional service to the Islands (including Cuttyhunk Island). More boat service is provided within Boston Harbor to the Harbor Islands, and there is service from Boston to Gloucester and Provincetown.

Cruise Ships and the Port of Boston

The Port of Boston serves as both a home port and a port-of-call for cruise ships. In 1999, 73 ships carrying over 129,000 passengers called on the port's Black Falcon Terminal. Cruise ship destinations include Europe, the Caribbean, Bermuda, Newfoundland, and Nova Scotia.

WATER PASSENGER SERVICE



Passenger Ferry Services

BOSTON HARBOR AND INNER HARBOR

Hingham to Boston (Rowes Wharf)

Boston Harbor Cruises (617) 227-4321

Massachusetts Bay Lines (617) 542-8000

Hull to Boston (Long Wharf)

Boston Harbor Cruises (617) 227-4321

Logan Airport to Boston (Rowes Wharf)

Airport Water Shuttle (617) 330-8680

Quincy (Fore River) to Logan Airport

Harbor Express (617) 376-8417

Charlestown Navy Yard to Boston (Long Wharf)

Boston Harbor Cruises (617) 227-4321

Salem to Boston (Long Wharf)

Harbor Express (978) 741-3442

SEASONAL SERVICES

Boston (Long Wharf), Lynn, or Hingham to Georges Island

Bay State Cruise Company (617) 727-7676

Inner Harbor wharves

City Water Taxi (617) 422-0392

Harbor Island water taxis

Dept. of Environmental Mgmt. (617) 740-1605

Boston to Provincetown

Bay State Cruise Company (617) 723-7800

Gloucester to Nantucket (July and August)

Yankee Fleet (800) 942-5464

BETWEEN THE MAINLAND AND THE ISLANDS

Woods Hole to Martha's Vineyard; Hyannis to Nantucket

The WHMV Steamship Authority (508) 548-3788

Hyannis, Martha's Vineyard, and Nantucket loop

Hy-Line Cruises (800) 492-8082

Falmouth to Martha's Vineyard (Oak Bluffs)

Island Queen (508) 548-4800

New Bedford to Martha's Vineyard

Cape Island Express (508) 997-1688

New Bedford to Cuttyhunk Island

Cuttyhunk Boat Lines (508) 992-1432

Harwich Port to Nantucket

Freedom Cruise Lines (508) 432-8999

FREIGHT MOVEMENT

The major forms of freight movement within Massachusetts are air, rail, water, and truck. The truck dominates the delivery of finished goods within the New England region. Most of the region's oil and coal is delivered to fuel distribution centers located within the ports of Massachusetts. Logan International Airport serves as a major air freight delivery point for the region.

AIR FREIGHT

Logan International Airport is the main air freight facility for Massachusetts and New England. It is ranked 31st in the world in terms of cargo throughput. Most air freight is transported in the holds of passenger jets. In 1999 Logan Airport handled over 493 thousand tons of cargo (consisting of mail, packages, and freight).

Logan Airport Cargo Handled, 1999 (in tons)

	Mail	Packages	Freight
Domestic	80,916	236,245	60,908
International	828	2,017	112,914
TOTAL	81,744	238,262	173,822



Loading of an express-packages jet, Logan Airport

Rail Freight

Ten freight railroads operate over 1,000 miles of rail throughout the Commonwealth, providing essential transportation connections in support of domestic and international trade. Intermodal rail service centers are located in Boston (Beacon Park Yards), Ayer, Westborough, Worcester, Palmer, and Springfield. The map opposite shows the routes upon which the rail carriers operate.

Freight Rail Statistics within Massachusetts, 1999

Number of railroads	10
Total rail miles	1,058
Rail carloads handled	466,956
Total tons carried by rail	20,245,867

Commodities Shipped by Rail Terminating within Massachusetts, 1999

	Rail Tonnage	Percent
Mixed freight	1,441,720	14%
Food products	1,361,436	13
Chemicals	1,317,212	13
Pulp and paper	1,268,524	12
Lumber, wood products	1,082,700	10
All other	3,999,225	38
TOTAL (TONS)	10,470,817	100%



Rail freight, Canton

FREIGHT RAIL LINE OPERATIONS



WATERBORNE FREIGHT

A total of 28.0 million tons of waterborne freight went through Massachusetts ports in 1998; 14.5 million tons was domestic and 13.5 million tons was foreign. Most of this freight was petroleum for distribution throughout New England.

Port Freight Traffic, 1998 (in short tons)

Port	Volume Handled	Main Commodities
Boston*	21,222,000	Petroleum, machinery
Fall River	3,776,000	Coal, petroleum
Salem Harbor	1,692,000	Coal, petroleum
New Bedford/Fairhaven	533,000	Petroleum, fish
Vineyard Haven Harbor	114,000	Sand, gravel, petroleum
Nantucket	48,000	Petroleum, sand, gravel
Gloucester	13,000	Fish, vegetables, produce

*Includes Chelsea Creek, Mystic River, and Quincy (Fore River).

In 1998 the Port of Boston handled a total of 81,300 container units at its Conley Terminal. Moran Terminal processed 77,100 automobiles.



Conley Terminal

MOTOR FREIGHT

In 1996 there were 13,350 motor carriers operating in Massachusetts. The motor carrier industry has two main segments: private carriers and for-hire carriers. The vast majority of carriers (87%) based in Massachusetts are private carriers—companies that move freight with their own fleet of trucks. Only 1,800 carriers are for-hire truck companies. In 1995 there were 57,900 single-unit trucks, 11,800 truck-tractors, and 23,600 commercial trailers registered in Massachusetts.

The primary commodities moved by truck are manufactured goods, building materials, processed foods, petroleum products, and machinery. The total manufactured freight tons carried inbound to and outbound from Massachusetts in 1995 was:

	Tons
Private carriers	44,995,900
For-hire carriers	45,324,990
TOTAL MANUFACTURED TONS	90,320,890

As the table below shows, the truck is the predominant mode for shipping manufactured freight and parcels, with air and rail handling less than 4% of the value and less than 1% of the weight transported.

Modes of Transportation for Shipments Originating in Mass. (1995)

Mode	% of Value	% of Weight
Truck	72.0 %	95.6 %
Parcel, USPS, courier	19.2	0.7
Air	3.6	—
Rail	0.3	0.8
Other	4.9	2.9

A large percentage of commodities shipped by truck from Massachusetts travels less than 250 miles from origin to destination:

Commodities Shipped by Truck from Mass.: Distance Traveled (1995)

Distance (in miles)	% of Value	% of Weight
Less than 50	34.5 %	77.2 %
50 to 99	8.7	8.0
100 to 249	14.5	6.6
250 to 499	9.1	2.9
500 to 999	14.4	2.8
1,000 or more	18.7	2.6

TRANSPORTATION INITIATIVES AND MAJOR PROJECTS

TRANSPORTATION INITIATIVES

The Commonwealth supports numerous programs that enhance transportation efficiency, encourage alternatives to travel by single-occupant vehicle, reduce congestion, and reduce auto-related pollution. Since the passage of the Clean Air Act over three decades ago, the nation and Massachusetts have made significant strides in reducing air pollution. Some of the programs supported by the Commonwealth are:

SmarTraveler Funded in part by MassHighway, SmarTraveler provides the general public with real-time information on travel conditions on the highway and transit systems of eastern Massachusetts. For information call (617) 374-1234.

Enhanced Inspection of Vehicles In 1999 Massachusetts implemented an enhanced safety and emissions testing program that reduces pollution from automobiles, trucks, and buses. Vehicles are required to undergo emissions testing on an advanced computerized system called a dynamometer every two years.

***SP Program** By dialing *SP, motorists can make a toll-free call from a cellular telephone to the State Police to report accidents or other highway incidents, facilitating a quick response.

Park-and-Ride Facilities In an effort to augment carpooling and transit options, Massachusetts transportation agencies are pursuing an aggressive expansion of park-and-ride facilities across the state. As of February 2001, there were over 55,000 park-and-ride spaces in Massachusetts.

High-Occupancy-Vehicle (HOV) Lanes and HOV Incentives MassHighway operates two HOV facilities on portions of I-93 near Boston. North of Boston, a southbound HOV lane operates between Mystic Avenue in Medford and the Charles River Crossing in Boston. This two-mile lane is restricted to vehicles with two or more passengers from 6:00 A.M. to 10:00 A.M., Monday through Friday. During all other hours this lane is open to all vehicles. South of Boston, a reversible "zipper lane" operates northbound from 6:00 A.M. to 10:00 A.M. and southbound from 3:00 P.M. to 7:00 P.M., Monday through Friday. It runs for six miles, between Freeport Street in Dorchester and the I-93/Route 3 split in Braintree. Like the other HOV lane, this facility is restricted to vehicles with two or more passengers. The Massachusetts Turnpike Authority offers a reduced-rate pass for HOV users of the Turnpike and the Sumner and Callahan tunnels.

Logan Ground Transportation Massport promotes numerous options for ground transportation to Logan Airport. Services include Logan Express buses from Braintree, Framingham, and Woburn; water transportation services, including fixed-schedule passenger ferry service and an on-demand water taxi serving most points in the Boston Inner Harbor; MBTA Blue Line service with direct shuttle bus connections; shared-ride van services operating in all areas inside I-495; taxis; and private limousine and coach services. Massport uses clean-fuel vehicles to transport passengers between terminals, the Blue Line, and surrounding communities. For more information, call (800) 23-LOGAN.

FAST LANE FAST LANE is the Massachusetts Turnpike Authority's electronic toll collection program. It is operational on the entire Massachusetts Turnpike (from West Stockbridge to Boston), at the Sumner and Ted Williams tunnels, and at the Tobin Memorial Bridge. FAST LANE is also accepted on toll facilities in New York, New Jersey, Delaware, Pennsylvania, and West Virginia.

CARAVAN for Commuters, Inc. (10 Park Plaza, Suite 2180, Boston, Massachusetts 02116; (888) 4-COMMUTE or www.commute.com) As Massachusetts' statewide commuter services organization, CARAVAN provides assistance to commuters and employers throughout the Commonwealth. It serves as a single source for information on all transportation options, and provides customized commute planning assistance directly to the public. At work sites, it offers a comprehensive package of commute management services, including travel and site access analysis, program planning, recommendations, and implementation assistance. CARAVAN also administers the Commonwealth's Transportation Management Associations Assistance Program (see below).

Transportation Management Associations (TMAs) TMAs are private, nonprofit groups formed to facilitate private-sector involvement in addressing transportation issues. At present there are 13 TMAs (listed below) in operation in the Commonwealth. Contact CARAVAN for more information.

Artery Business Committee TMA
CommuteWorks/MASCO
Interinstitutional TMA
Logan TMA
Neponset Valley TMA
River Road TMA
Seaport TMA

Charles River TMA
Greater Lowell TMA
Junction TMO
MetroWest/495 TMA
The 128 Business Council
Route 9 TMA

PLANNING PROCESS AND PUBLIC INVOLVEMENT

In Massachusetts, Metropolitan Planning Organizations (MPOs) are responsible for developing transportation plans and programs consistent with regional and local policies. Each year MPOs develop and approve a regional Transportation Improvement Program, or TIP, that directs the use of Federal and certain state funding according to regional priorities. It is through the MPOs that citizens and groups introduce ideas and proposals for future transportation improvements.

All Massachusetts MPOs include four permanent members: the Executive Office of Transportation and Construction, the Massachusetts Highway Department, the Regional Planning Agency, and the Regional Transit Authority. Some MPOs also include local elected officials, such as mayors and selectman, in their membership. Regional Planning Agencies act as transportation staff to most MPOs.

For more information on MPOs, contact **MassHighway's Bureau of Transportation Planning and Development** at (617) 973-7313, or the appropriate regional contact listed below:

Berkshire Metropolitan Planning Organization

Regional contact: Berkshire Regional Planning Commission
Pittsfield (413) 442-1521 www.berkshireplanning.org

Boston Metropolitan Planning Organization

Regional contacts:
Central Transportation Planning Staff
Boston (617) 973-7100 www.ctps.org
Metropolitan Area Planning Council
Boston (617) 451-2770 www.mapc.org

Cape Cod Metropolitan Planning Organization

Regional contact: Cape Cod Commission
Barnstable (508) 362-3828 www.capecodcommission.org

Central Massachusetts Metropolitan Planning Organization

Regional contact: Central Massachusetts Regional Planning Commission
Worcester (508) 756-7717 www.cmrpc.org

Franklin Regional Council of Governments

Greenfield (413) 774-3167 www.frcog.org

Martha's Vineyard Commission

Oak Bluffs (508) 693-3453

Merrimack Valley Metropolitan Planning Organization

Regional contact: Merrimack Valley Regional Planning Commission
Haverhill (978) 374-0519 www.mvpc.org

Montachusett Metropolitan Planning Organization

Regional contact: Montachusett Regional Planning Commission
Fitchburg (978) 345-7376 www.mrpc.org

Nantucket Planning and Economic Development Commission

Nantucket (508) 228-7237

Northern Middlesex Metropolitan Planning Organization

Regional contact: Northern Middlesex Council of Governments
Lowell (978) 454-8021 www.nmcog.org

Old Colony Metropolitan Planning Organization

Regional contact: Old Colony Planning Council
Brockton (508) 583-1833 www.ocpcrpa.org

Pioneer Valley Metropolitan Planning Organization

Regional contact: Pioneer Valley Planning Commission
West Springfield (413) 781-6045 www.pvpc.org

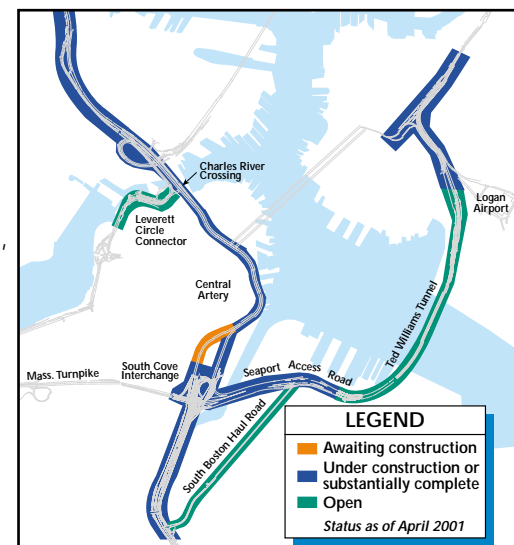
Southeastern Massachusetts Metropolitan Planning Organization

Regional contact: Southeastern Regional Planning and Economic Development District
Taunton (508) 824-1367 www.srpedd.org

MAJOR PROJECTS PROPOSED OR UNDERWAY

Central Artery/Ted Williams Tunnel

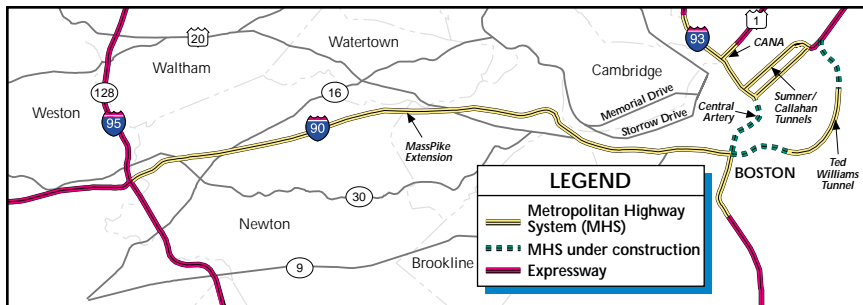
The Central Artery/Ted Williams Tunnel project, which is under the supervision of the Massachusetts Turnpike Authority, will replace the antiquated 6-lane, elevated I-93 in downtown Boston with a new 8-to-10-lane roadway, mostly underground, and will extend the Massachusetts Turnpike (I-90) to Logan Airport. The Ted Williams Tunnel, a new 4-lane tunnel under Boston Harbor connecting South Boston with Logan Airport, opened to commercial traffic in December 1995. The initial Leverett Circle Connector opened in October 1999; this new 4-lane bridge over the Charles River links Leverett Circle in downtown Boston to I-93 in Charlestown. The number for Artery construction updates is (617) 951-6400; or visit www.bigdig.com.





The Central Artery's new cable-stayed bridge over the Charles River, Boston

Metropolitan Highway System (MHS) The MHS was created in 1997 to unify the operation of the Central Artery and the various toll facilities within the Boston highway network under the oversight of the Massachusetts Turnpike Authority. The MHS includes the Turnpike from Boston to Route 128, the Central Artery, the three harbor tunnels, the Seaport Access Road, and the Central Artery North Area (CANA) facilities. MassPike is overseeing the completion of Central Artery Project construction and the day-to-day operation and maintenance of the MHS components.



Fall River/New Bedford Commuter Rail Extension The Massachusetts Bay Transportation Authority is in the planning phase for the expansion of its commuter rail network to the cities of Fall River and New Bedford.

Intermodal Transportation Centers The Executive Office of Transportation and Construction, in cooperation with other state and regional agencies, is currently planning, constructing, or expanding intermodal transportation centers throughout Massachusetts. These facilities will link multiple modes of transportation, including bus, water ferry, rail, pedestrian, and bicycle, for their respective regions. Union Station in downtown Worcester is an intermodal center that is being renovated and expanded.



Union Station, Worcester

Rest Area Enhancement Program MassHighway is implementing a \$15 million program to provide additional services to motorists along state highways. This program includes the construction of new full-service visitor centers at key locations in the Commonwealth. Amenities such as new picnic areas and new information and telephone services are being created throughout the state highway system.

Logan Airport Modernization Massport has embarked on a \$1 billion modernization plan to ensure Logan Airport's ability to serve the needs of the region well into the 21st century. The program will upgrade passenger terminals, improve traffic and pedestrian circulation, centralize parking, and add a new transit connection between the airport and the MBTA system. Projects currently under construction include modernization of the International Gateway (Terminal E) and improvements to the terminal area roadways. The new transit connection—the Airport Intermodal Transit Connector (AITC)—will provide service to the South Station Intermodal Center.

North Station–South Station Rail Link The Commonwealth is studying the feasibility of connecting Boston's North and South stations via an underground rail link. This would allow full integration of commuter rail service between the areas north and south of Boston and extension of the Northeast Corridor to Maine.

Route 146/Massachusetts Turnpike Interchange A new Massachusetts Turnpike interchange (exit 10A) connecting the MassPike with Routes 146 and 20 was completed in 1998. The direct link between the MassPike and Route 146 increases mobility in the Blackstone Valley. Route 146, which is being upgraded to a limited-access highway, connects the MassPike with Worcester to the north and Rhode Island to the south.

Project Clean A beautification program initiated by the Executive Office of Transportation and Construction, Project Clean is designed to ensure cleanliness along state highways and at rest areas. In addition, the program has targeted all transit stations and all transit vehicles for tangible improvements. Under Project Clean, motorists and transit riders serve as a monitoring force. To report locations that need attention, highway travelers



should call (888) 359-9595 (or #321 on cell phones), and public transit users should call (617) 222-5215.

Expansion of Bicycle and Recreational Paths The Commonwealth is expanding both off-road and on-road recreational facilities across the state. On Nantucket, the Polpis Road Bicycle Path, an 8.2-mile facility, is under construction. Martha's Vineyard is developing plans to add 11.5 miles of bicycle paths to the island's existing bicycle network. Five extensions or spurs to the Norwottuck trail in the Pioneer Valley are under design. In central Massachusetts, the Blackstone River bikeway, a 28-mile path from Worcester to Blackstone, is under design.

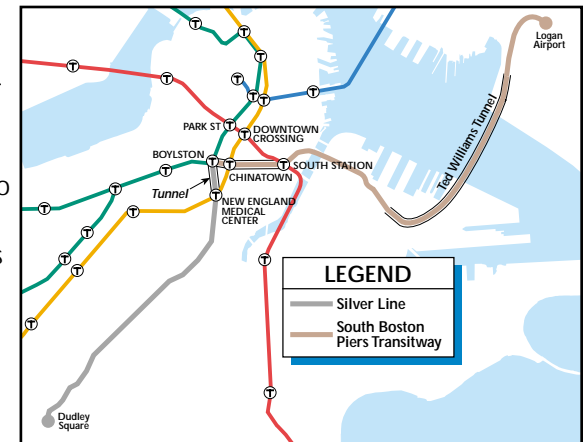
Pittsfield Municipal Airport Preparation of an Airport Master Plan is underway to document the need for capital improvements at the airport, including the potential for expansion of the airport's primary runway.

Freight Service between New Bedford and Martha's Vineyard The Woods Hole, Martha's Vineyard & Nantucket Steamship Authority is piloting a six-month trial run of daily freight ferry service between New Bedford (State Pier) and Martha's Vineyard. This service would help redirect some of the freight traffic currently moving through the Cape.

Acela and the Extension of the Northeast Corridor by Amtrak Amtrak has begun high-speed Acela train service along the Northeast Corridor. Amtrak is working with the Commonwealth and the states of Maine and New Hampshire to extend passenger service from Boston to Portland, Maine.

MBTA Silver Line The Silver Line will be an innovative rubber-tire rapid

transit service that ultimately will connect the Washington Street corridor and the South Boston Piers Transitway, providing a direct link to Logan Airport. By connecting residential areas to key employment areas, including downtown districts and the airport, the Silver Line will boost the economy



of those neighborhoods and improve Boston's economy as a whole. This new service will begin operating along Washington Street in December 2001, and the Transitway portion of the project in South Boston will begin operating in 2003.

Access to Jobs EOTC is overseeing a program designed to maximize the transportation options of people on transitional assistance through the Welfare to Work program, to ensure that transportation will not be a barrier to gainful employment.

Brightman Street Bridge MassHighway has initiated construction of a \$167 million project that will replace the existing drawbridge carrying Route 6 over the Taunton River between the city of Fall River and the town of Somerset. The new bridge will be a drawbridge with a higher clearance over the river.

Additional copies are available from:

Executive Office of Transportation and Construction

State Transportation Building
10 Park Plaza, Suite 3170
Boston, Massachusetts 02116
(617) 973-7000
TTY (617) 973-7306
www.eotc.org

Sources

- Amtrak
- Association of American Railroads
- Department of Environmental Management, Mass. EOE
- Federal Aviation Administration, *Airport Activity Statistics*
- Federal Highway Administration, *Highway Statistics 1999*
- Federal Highway Administration, Office of Highway Information
- Federal Transit Administration
- Massachusetts Aeronautics Commission
- Massachusetts Bay Transportation Authority Planning Department
- Massachusetts Highway Department
- Massachusetts Motor Transportation Association
- Massachusetts Port Authority
- Massachusetts Turnpike Authority
- Regional transit authorities
- U.S. Army Corps of Engineers, New England Division
- U.S. Department of Transportation, Bureau of Transportation Statistics
- Woods Hole, Martha's Vineyard & Nantucket Steamship Authority

Prepared for
the Executive Office of Transportation and Construction
by the Boston Metropolitan Planning Organization's
Central Transportation Planning Staff

Prepared April 2001

